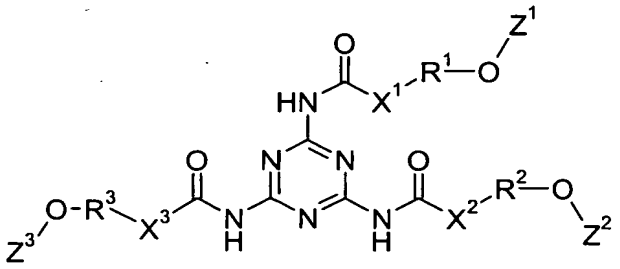
Claims

1. A 1,3,5-triazine carbamate or 1,3,5-triazine urea of formula (I)



in which

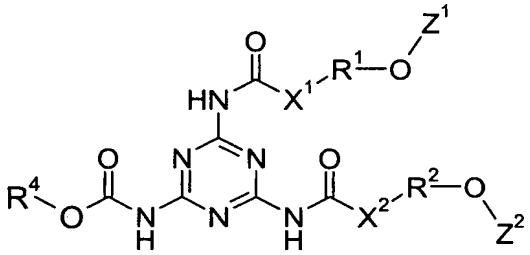
R^1, R^2 and R^3 each independently of one another are a divalent organic radical,

X^1, X^2 and X^3 each independently of one another are oxygen or substituted or unsubstituted nitrogen (NR),

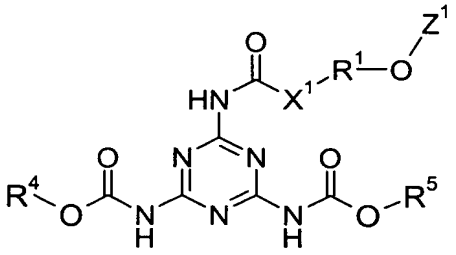
R being hydrogen or $C_1 - C_{20}$ alkyl, and

Z^1, Z^2 and Z^3 each independently of one another are vinyl, methacryloyl or acryloyl.

2. A 1,3,5-triazine carbamate or 1,3,5-triazine urea of formula (II)



or of formula (III)

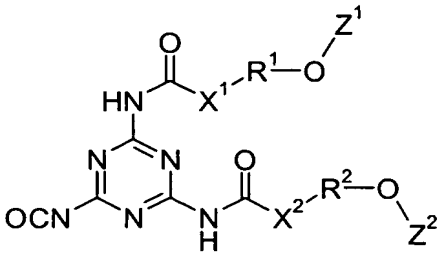


in which

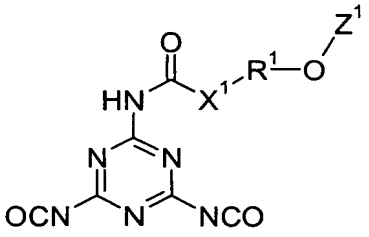
X^1, X^2, Z^1, Z^2, R^1 and R^2 are as defined in claim 1 and

R^4 and R^5 each independently of one another are $C_1 - C_4$ alkyl.

3. An isocyanato-functional 1,3,5-triazine carbamate or 1,3,5-triazine urea of formula (V)



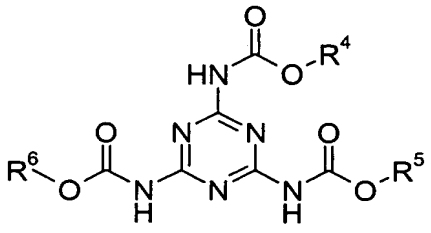
or formula (VI)



in which

X^1, X^2, Z^1, Z^2, R^1 and R^2 are as defined in claim 1.

4. A radiation-curable 1,3,5-triazine carbamate or 1,3,5-triazine urea obtainable by reacting a compound of formula (IV)



in which

R^4, R^5 and R^6 each independently of one another can be $C_1 - C_4$ alkyl

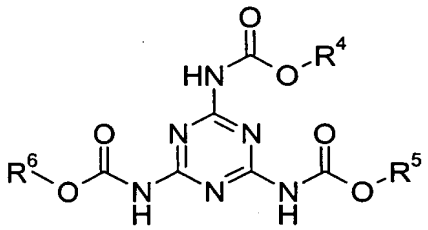
or by reacting 2,4,6-triisocyanato-1,3,5-triazine

with a compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group.

5. A radiation-curable 1,3,5-triazine carbamate or urea according to claim 4, wherein the compound containing a hydroxyl or amino group and at least one vinyl, methacryloyl or acryloyl group is selected from the group consisting of polyether (meth)acrylates, polyesterol (meth)acrylates, urethane (meth)acrylates and epoxy (meth)acrylates.

6. A process for preparing a compound of formula (I), (II) or (III) as set forth in claim 1 or 2

by reacting a compound of formula (IV)



in which

R^4, R^5 and R^6 in each case independently of one another can be $C_1 - C_4$ alkyl

with an alcohol or amine of formula (VII)

Z^1-O-R^1-X^1-H or Z^2-O-R^2-X^2-H, or Z^3-O-R^3-X^3-H,

in which X^1, X^2, X^3, Z^1, Z^2, Z^3, R^1, R^2 and R^3 are as defined in claim 1.

7. A process for preparing a compound of formula (I), (II) or (III) by reacting 2,4,6-triisocyanato-1,3,5-triazine with an alcohol or amine of formula (VII), as defined in claim 6, and in the case of compound (II) or (III) by simultaneous, prior or subsequent reaction with alcohols of formula R^4OH or R^5OH, where R^4 and R^5 each independently of one another can be $C_1 - C_4$ alkyl.

8. A process for preparing a compound of formula (V) or (VI) as set forth in claim 3 by reacting 2,4,6-triisocyanato-1,3,5-triazine with an alcohol or amine of formula (VII) as defined in claim 6.

9. A coating composition comprising at least one compound of formula (I) and/or formula (II) and/or formula (III) and/or formula (V) and/or formula (VI) and/or a radiation-curable 1,3,5-triazine carbamate or 1,3,5-triazine urea according to claim 4.

10. The use of a compound of formula (I) as defined in claim 1 in radiation curing.

11. The use of a compound of formula (II) and/or formula (III) and/or formula (V) and/or formula (VI) and/or a radiation-curable 1,3,5-triazine carbamate or 1,3,5-triazine urea according to claim 4 in dual-cure curing.